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Note : Remove “Table of Content” before including in CP Book
Each Course Plan shall be printed and made into a book with cover page
Blooms Level in all sections match with A.2, only if you plan to teach / learn at higher levels

15CS553 : ADVANCED JAVA AND J2EE

A. COURSE INFORMATION

1. Course Overview

Degree:	B.E	Program:	CS
Year / Semester :	V Sem 'A & 'B'	Academic Year:	2018-19
Course Title:	JAVA AND J2EE	Course Code:	15CS553
Credit / L-T-P:	3-0-0	SEE Duration:	180 Minutes
Total Contact Hours:	40	SEE Marks:	80 Marks
CIA Marks:	20	Assignment	1 / Module
Course Plan Author:	RAJESH. V	Sign	Dt: 4-8-2018
Checked By:	NAGA RATHNA	Sign	Dt: 4-8-2018

2. Course Content

Module	Module Content	Teaching Hours	Module Concepts	Blooms Level
1	Enumeration fundamentals, the values() and valueOf() Methods, java enumerations are class types, enumerations Inherits Enum, example, type wrappers, Autoboxing, Autoboxing and Methods, Autoboxing/Unboxing occurs in Expressions, Autoboxing/Unboxing, Boolean and character values, Autoboxing/Unboxing helps prevent errors, A word of Warning. Annotations, Annotation basics, specifying retention policy, Obtaining Annotations at run time by use of reflection, Annotated element Interface, Using Default values, Marker Annotations, Single Member annotations, Built-In annotations.	8	Enumeration java class methods Annotation Syntactic meta data AutoBoxing wrapper classes	L2 L2 L2
2	Collections Overview, Recent Changes to Collections, The Collection Interfaces, The Collection Classes, Accessing a collection Via an Iterator, Storing User Defined Classes in Collections, The Random Access Interface, Working With Maps, Comparators, The Collection Algorithms, Why Generic Collections?, The legacy Classes and Interfaces, Parting Thoughts on Collections.	8	Collection classes and interfaces Legacy classes and interfaces	L3 L2
3	The String Constructors, String Length, Special String Operations, String Literals, String Concatenation, String Concatenation with Other Data Types, String Conversion and toString( ) Character Extraction, charAt( ), getChars( ), getBytes( ) toCharArray(), String Comparison, equals( ) and equalsIgnoreCase( ), regionMatches( ) startsWith( ) and endsWith( ), equals( ) Versus == , compareTo( ) Searching Strings, Modifying a String, substring( ), concat( ), replace( ), trim( ), Data Conversion Using valueOf( ), Changing the Case of Characters Within a String, Additional String Methods, StringBuffer , StringBuffer Constructors, length( ) and capacity( ), ensureCapacity( ), setLength( ), charAt( ) and setCharAt( ), getChars( ),append( ), insert( ), reverse( ), delete( ) and deleteCharAt( ), replace( ), substring( ), Additional StringBuffer Methods, StringBuilder	8	String class Methods. String Buffer class Methods.	L3 L3
4	Using Tomcat for Servlet Development; A simple Servlet; The Servlet API; The Javax.servlet Package; Reading Servlet Parameter; The Javax.servlet.http package; Handling HTTP Requests and Responses; Using Cookies; Session Tracking. Java Server Pages (JSP): JSP, JSP Tags, Tomcat, Request String, User Sessions, Cookies, SessionObjects	8	Servlet API's JSP API's Session Management	L3 L3 L2

5	The Concept of JDBC; JDBC Driver Types; JDBC Packages; A Brief Overview of the JDBC process; Database Connection; Associating the JDBC/ODBC Bridge with the Database; Statement Objects; ResultSet; Transaction Processing; Metadata, Data types; Exceptions.	8	JDBC/ODBC API's Transaction processing	L3 L2

3. Course Material

Module	Details	Available
1	Text books	In Lib
	1. Herbert Schildt: JAVA the Complete Reference, 7 /9th Edition, Tata McGraw Hill, 2007.	Available
	2. Jim Keogh: J2EE-TheCompleteReference, McGraw Hill, 2007.	Available
2	Reference books	In dept
	1. Herbert Schildt: JAVA the Complete Reference, 7 /9th Edition, Tata McGraw Hill, 2007.	Available
	2. Jim Keogh: J2EE-TheCompleteReference, McGraw Hill, 2007.	Available
3	Others (Web, Video, Simulation, Notes etc.)	
	• http://nptel.ac.in/courses.php?disciplineID=111	
	• http://wwww.khanacademy.org/	
	• http://vtuplanet.com/download.php?type=notes&dir=7th+Sem&file=JAVA+%26+J2EE+(SJBIT)+%5B10IS753%5D-NOTES.pdf	

4. Course Prerequisites

SNo	Course Code	Course Name	Module / Topic / Description	Sem	Remarks	Blooms Level
1	15PCD13	C Programing & Data structures	Module 2 : Branching and Looping	1	Branching and looping concepts were taught earlier.	L3
2	15CS45	OOPS	Module 1 : Introduction to Object Oriented Concepts	3	Object Oriented programing, Inheritance,Polymorphism, Operator Overloading	L2
3	15CS33	Data Structures	Module 2,3,4 : Stacks and Queue's, Linked list, Trees	3	Understanding, application and implementation of Stacks ,Queues, Linked list, and Trees.	L3
4	15CS45	OOPS	Module 1 : Object Oriented programming and procedure oriented programming, java and C++	3	Difference between object Oriented programming and procedure oriented programming, C++ Classes Difference between C++ and Java	L2

B. OBE PARAMETERS

1. Course Outcomes

#	COs	Teach. Hours	Concept	Instr Method	Assessment Method	Blooms' Level
15CS553.1	Understand Enumeration and Autoboxing in Developing Efficient	06	Enumerations	Lecture and PPT	Slip Test Q&A	L2 Understand

	Java Programs.		AutoBoxing			
15CS553.2	Understand Annotations for developing Efficient Java Programs	02	Annotations	Lecture and PPT Demonstration	Assignment Unit Test Student PPT, Q&A Slip Test	L2 Understand
15CS553.3	Apply Collection Classes and Interfaces for Data Management	06	Collections Framework	Lecture and PPT, Demonstration	Assignment, Slip Test,Q&A	L3 Apply
15CS553.4	Understand Legacy Classes for Data Management and compare with collection classes.	02	Legacy Classes	Lecture and PPT	Assignment Q & A	L2 Understand
15CS553.5	Apply String classes for String Processing Applications.	04	String Classes	Lecture and Tutorial	Slip test , Q&A	L3 Apply
15CS553.6	Apply String Buffer classes for String processing applications.	04	String Buffer Classes	Lecture and Tutorial	Slip test Q&A	L3 Apply
15CS553.7	Apply Servlet API classes for developing Web application	04	Servlets	Lecture and PPT, Demonstration	Assignment and Student PPT	L3 Apply
15CS553.8	Apply JSP API classes and Interfaces for Web application	04	JSP	Lecture and PPT, Demonstration	Assignment and Student PPT	L3 Apply
15CS553.9	Apply JDBC/ODBC Classes and Interfaces for handling Databases in Java/J2ee Applications.	06	Handling JDBC	Lecture and PPT	Assignment and Student PPT	L3 Apply
15CS553.10	Understand Transaction processing mechanism for Data base application programming.	02	Transaction Processing	Lecture and Tutorial	Assignment and Student PPT	L2 Understand
-	**Total**	**40**	-	-	-	-

Note: Identify a max of 2 Concepts per Module. Write 1 CO per concept.

2. Course Applications

SNo	Application Area	CO	Level
1	• We can use enum types when we need to represent a fixed set of constants . • We can use enums when a variable can take one out of a small set of possible values • Enum considered more type-safe than constants: One of the common use of enums is to prevent the possibility of an invalid parameter. • to use an instance of a particular type as an instance of another, related type (use a String as an Object)	CO1	L2 Understand
2	• annotation is used to describe the element and clarify its meaning. • advanced application for annotations involves reflection and annotation processing at run-time.	CO2	L2 Understand

3	• Java Collections Framework provides lots of different useful data types, • Java Collections Framework provides abstractions	CO3	L3 Apply
4	• legacy classes are re-engineered to support generics in JDK5 Vector class is one among them. • All legacy classes are synchronized	CO4	L2 Understand
5	• String class is used to create and manipulate strings. • String objects are immutable so it is used in a constant and cannot be changed once created.	CO5	L3 Apply
6	• StringBuffer provides much of the functionality of strings. • StringBuffer is used for growable and writable character sequences.	CO6	L3 Apply
7	• Servlets are commonly used to extend the applications hosted by web servers. • Servlets are most popularly used for generating dynamic content on the Web and have native support for HTTP.	CO7	L3 Apply
8	• JavaServer Pages allows us to integrate with our existing Java Enterprise solutions, • JavaServerPages can be used in the presentation layer,	CO8	L3 Apply
9	• Java JDBC is used to connect and execute query with the database. • JDBC drivers are written in Java language it is more secured.	CO9	L3 Apply
10	• Transaction processing is crucial requirements for large enterprise applications in the domains of finance, banking and electronic commerce. • Transcation processing is used for Component Based Development.	CO10	L2 Understand

Note: Write 1 or 2 applications per CO.

3. Articulation Matrix

(CO – PO MAPPING)

-	Course Outcomes	Program Outcomes												
#	COs	PO1	PO2	PO3	PO4	PO5	PO 6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	Level
15CS553.1	Understand Enumeration and Autoboxing in Developing Efficient Java Programs.	2	2	2	-	3	-	-	-	1	1	2	1	L2 Understand
15CS553.2	Understand Annotations for developing Efficient Java Programs	2	2	2	-	3	-	-	-	1	1	2	1	L2 Understand
15CS553.3	Apply Collection Classes and Interfaces for Data Management	1	2	2		3	-	-	-	1	1	2	1	L3 Apply
15CS553.4	Understand Legacy Classes for Data Management and compare with collection classes.	1	2	2	-	3	-	-	-	1	1	2	1	L2 Understand
15CS553.5	Apply String classes for String Processing Applications.	1	2	3	-	3	-	-	-	1	1	2	1	L3 Apply
15CS553.6	Apply String Buffer classes for String processing applications.	1	2	3	-	3	-	-	-	1	1	2	1	L3 Apply
15CS553.7	Apply Servlet API classes for developing Web application	2	2	3	-	3	-	-	-	1	1	2	1	L3 Apply
15CS553.8	Apply JSP API classes and Interfaces for Web application	2	2	3	-	3	-	-	-	1	1	2	1	L3 Apply
15CS553.9	Apply JDBC/ODBC Classes and Interfaces for handling Databases in Java/J2ee Applications.	2	2	3	-	3	-	-	-	1	1	2	1	L3 Apply
15CS553.10	Understand Transaction	2	2	3	-	3	-	-	-	1	1	2	1	L2

	processing mechanism for Data base application programming.													Understand

Note: Mention the mapping strength as 1, 2, or 3

4. Mapping Justification

Mapping		Justification	Mapping Level
CO	**PO**	**-**	**-**
CO1	PO1	Understanding Enumerations for developing java programs we need to apply Knowledge of mathematics.	L2
CO1	PO2	Understanding Enumerations and for developing Java programs we need to analyze complex engineering problems.	L2
CO1	PO3	Understanding Enumerations and Autoboxing for developing Java programs we need to design solutions for complex engineering problems.	L2
CO1	PO4	No need to Conduct investigations of complex problems. No mapping	L2
CO1	PO5	Understanding Enumerations and Autoboxing & for developing Java programs Defnitely we use modern software development tools.	L2
CO1	PO6	No impact on the context of The engineer and society. No mapping	L2
CO1	PO7	No impact on the context of Environment and sustainability. No mapping	L2
CO1	PO8	No Ethical principals involved. No mapping	L2
CO1	PO9	Understanding Enumerations and Autoboxing for developing Java programs and used for developing java applications we need to function as individual and as a team member	L2
CO1	PO10	Understanding Enumerations and Autoboxing for developing Java programs and used for developing java application we need to communicate effectively with the engineering community.	L2
CO1	PO11	Understanding Enumerations and Autoboxing for developing Java programs and used for developing java application we need to Demonstrate the knowledge of engieering and management pronciples for project management.	L2
CO1	PO12	Understanding Enumerations and Autoboxing for developing Java programs needs lifelong learning because the concepts of Enumerations and Autoboxing keeps changing with major Revisons and minor versions.	L2
CO2	PO1	Understanding Annotations for developing java programs we need to apply Knowledge of mathematics. Since it involves reflections	L2
CO2	PO2	Understanding Annotations for developing Java programs we need to analyze complex engineering problems. Since it involves reflections	L2
CO2	PO3	Understanding Annotations for developing Java programs we need to design solutions for complex engineering problems.	L2
CO2	PO4	No need to Conduct investigations of complex problems. No mapping	
CO2	PO5	Understanding Annotations for developing Java programs Defnitely we use modern software development tools. Since it involves reflections	L2
CO2	PO6	No impact on the context of The engineer and society. No mapping	L2
CO2	PO7	No impact on the context of Environment and sustainability. No mapping	L2

CO2	PO8	No Ethical principals involved. No mapping	L2
CO2	PO9	Understanding Annotations for developing Java programs and used for developing java application we need to function as induvidual and as a team member	L2
CO2	PO10	Understanding Annotations for developing Java programs and used for developing java application we need to communicate effectively with the engineering community.	L2
CO2	PO11	Understanding Annotations for developing Java programs and used for developing java application we need to Demonstrate the knowledge of engieering and management pronciples for project management.	L2
CO2	PO12	Understanding Annotations for developing Java programs needs lifelong learning because the concepts annoations keeps changing with major Revisons and minor versions.	L2
CO3	PO1	Applying collection classes for data managementwe need to apply Knowledge of mathematics. Since it provides many useful datatypes and provides abstractions	L3
CO3	PO2	Applying collection classes for data management we need to analyze complex engineering problems.Since it provides many useful datatypes and provides abstractions	L3
CO3	PO3	Applying collection classes for data management we need to design solutions for complex engineering problems.Since it provides many useful datatypes and provides abstractions	L3
CO3	PO4	No need to Conduct investigations of complex problems. No mapping	
CO3	PO5	Applying collection classes for data management Defnitely we use modern software development tools. Since it provides many useful datatypes and provides abstractions	L3
CO3	PO6	No impact on the context of The engineer and society. No mapping	L3
CO3	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO3	PO8	No Ethical principals involved. No mapping	L3
CO3	PO9	Applying collection classes for data management in developing java applications. we need to function as induvidal and as a team member .	L3
CO3	PO10	Applying collection classes for data management in developing java applications. we need to communicate effectively with the engineering community.	L3
CO3	PO11	Applying collection classes for data management in developing java applications .we need to Demonstrate the knowledge of engieering and management pronciples for project management.	L3
CO3	PO12	Applying collection classes for data management in developing java applications. needs lifelong learning because Collection classes API keeps changing with major Revisons and minor versions.	L3
CO4	PO1	Understanding Legacy classes for DataManagement and compare them with collection classses. Need to apply Knowledge of mathematics. Since all legacy classes are re-engineered and Synchronized.	L2
CO4	PO2	Understanding Legacy classes for DataManagement and compare them with collection classses. need to analyze complex engineering problems.Since all legacy classes are re-engineered and Synchronized.	L2
CO4	PO3	Understanding Legacy classes for DataManagement and compare them with collection classses.we need to design solutions for complex engineering problems. Since all legacy classes are re-engineered and Synchronized	L2

CO4	PO4	No need to Conduct investigations of complex problems. No mapping	
CO4	PO5	Understanding Legacy classes for DataManagement and compare them with collection classses. In developing java applications we need to work as a team and as induvidyal members.	L2
CO4	PO6	No impact on the context of The engineer and society. No mapping	L3
CO4	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO4	PO8	No Ethical principals involved. No mapping	L3
CO4	PO9	Understanding Legacy classes for DataManagement and compare them with collection classses. Defnitely we use modern software development tools. Since all legacy classes are re-engineered and Synchronized	L2
CO4	PO10	Understanding Legacy classes for DataManagement and compare them with collection classses. When developing java applications. we need to communicate effectively with the engineering community.	L2
CO4	PO11	Understanding Legacy classes for DataManagement and compare them with collection classses.needs lifelong learning because Legacy classes and Collection classes API keeps changing with major Revisons and minor versions.	L2
CO4	PO12	Understanding Legacy classes for DataManagement and compare them with collection classses. we need to Demonstrate the knowledge of engieering and management principles for project management.	L2
CO5	PO1	For applying String Classes . We Need to apply Knowledge of mathematics. Since String classes are immutable and for manipulating strings.	L3
CO5	PO2	For applying String, Classes in developing java string processing applications. need to analyze complex engineering problems. Since String classes are immutable and for manipulating strings.	L3
CO5	PO3	For applying String, Classes in developing java string processing applications we need to design solutions for complex engineering problems. Since String classes are immutable and for manipulating strings.	L3
CO5	PO4	No need to Conduct investigations of complex problems. No mapping	
CO5	PO5	For applying String, Classes in developing java string processing applications Defnitely we use modern software development tools.	L3
CO5	PO6	No impact on the context of The engineer and society. No mapping	L3
CO5	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO5	PO8	No Ethical principals involved. No mapping	L3
CO5	PO9	For applying String, Classes in developing java string processing applications we need to function as induvidal and as a team member	L3
CO5	PO10	For applying String, Classes in developing java string processing applications we need to communicate effectively with the engineering community.	L3
CO5	PO11	For applying String, Classes in developing java string processing applications needs lifelong learning because String Classes API keeps changing with major Revisons and minor versions	L3
CO5	PO12	For applying String, Classes in developing java string processing	L3

		applications we need to Demonstrate the knowledge of engieering and management principles for project management.	
CO6	PO1	For applying String Buffer and String Builder Classes. We Need to apply Knowledge of mathematics. Since String classes are immutable and for manipulating strings.	L3
CO6	PO2	For applying String Buffer and String Builder Classes in developing java string processing applications. need to analyze complex engineering problems. Since String classes are immutable and for manipulating strings.	L3
CO6	PO3	For applying String Buffer and String Builder Classes in developing java string processing applications we need to design solutions for complex engineering problems. Since String classes are immutable and for manipulating strings.	L3
CO6	PO4	No need to Conduct investigations of complex problems. No mapping	
CO6	PO5	For applying String Buffer Classes and String Builder Classes in developing java string processing applications Defnitely we use modern software development tools.	L3
CO6	PO6	No impact on the context of The engineer and society. No mapping	L3
CO6	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO6	PO8	No Ethical principals involved. No mapping	L3
CO6	PO9	For applying String Buffer and String Builder Classes in developing java string processing applications we need to function as induvidal and as a team member	L3
CO6	PO10	For applying String Buffer and String Builder Classes in developing java string processing applications we need to communicate effectively with the engineering community.	L3
CO6	PO11	For applying String Buffer and String Builder Classes in developing java string processing applications needs lifelong learning because String Classes API keeps changing with major Revisons and minor versions	L3
CO6	PO12	For applying String Buffer and String Builder Classes in developing java string processing applications we need to Demonstrate the knowledge of engieering and management principles for project management.	L3
CO7	PO1	For Applying Servlet API Classes to Develop Web application. We Need to apply Knowledge of mathematics. Since Servlets extends the functionality of the server, to develop dynamic web content and to have native support of HTTP.	L3
CO7	PO2	For Applying Servlet API Classes to Develop Web application.We need to analyze complex engineering problems. Since servelets extends functionality of webserver, for scaling the requests. Load balancing, session management etc.	L3
CO7	PO3	For Applying Servlet API Classes to Develop Web application. we need to design solutions for complex engineering problems. Since servelets extends functionality of webserver, for scaling the requests. Load balancing, session management etc.	L3
CO7	PO4	No need to Conduct investigations of complex problems. No mapping	
CO7	PO5	For Applying Servlet API Classes to Develop Web application. Defnitely we use modern software development tools.	L3
CO7	PO6	No impact on the context of The engineer and society. No mapping	L3
CO7	PO7	No impact on the context of Environment and sustainability. No mapping	L3

CO7	PO8	No Ethical principals involved. No mapping	L3
CO7	PO9	For Applying Servlet API Classes to Developing Web application. We need to function as induvidal and as a team member .	L3
CO7	PO10	For Applying Servlet API Classes to Develop Web application. We need to communicate effectively with the engineering community.	L3
CO7	PO11	For Applying Servlet API Classes to Developing Web application.needs lifelong learning because Web technologies especially in the middle ware keeps changing with major Revisons and minor versions.	L3
CO7	PO12	For Applying Servlet API Classes to Develop Web application. we need to Demonstrate the knowledge of engieering and management principles for project management.	L3
CO8	PO1	To apply JSP API classes for developing Web application. We Need to apply Knowledge of mathematics since JSP is used for integrating existing web applications. And in the presentation layer and to have native support of Http.	L3
CO8	PO2	To apply JSP API classes for developing Web application. We need to analyze complex engineering problems since JSP is used for integrating existing web applications. for scaling the requests. Load balancing, session management etc.	L3
CO8	PO3	To apply JSP API classes for developing Web application we need to design solutions for complex engineering problems. JSP is used for integrating existing web applications. for scaling the requests. Load balancing, session management etc.	L3
CO8	PO4	No need to Conduct investigations of complex problems. No mapping	L3
CO8	PO5	To apply JSP API classes for developing Web application Defnitely we use modern software development tools.	L3
CO8	PO6	No impact on the context of The engineer and society. No mapping	L3
CO8	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO8	PO8	No Ethical principals involved. No mapping	L3
CO8	PO9	To apply JSP API classes for developing Web application we need to function as induvidal and as a team member .	L3
CO8	PO10	To apply JSP API classes for developing Web application and g java applications. we need to communicate effectively with the engineering community.	L3
CO8	PO11	To apply JSP API classes for developing Web application needs lifelong learning because JSP API and presentation layer technology keeps changing with major Revisons and minor versions.	L3
CO8	PO12	To apply JSP API classes for developing Web application we need to Demonstrate the knowledge of engieering and management principles for project management.	L3
CO9	PO1	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application. We Need to apply Knowledge of mathematics. To connect and execute query with the database and to handle JDBC drivers. Protocols and Middleware.	L3
CO9	PO2	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application.We need to analyze complex engineering problems.To connect and execute query with the database and to handle JDBC drivers. Protocols and Middleware.	L3
CO9	PO3	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application.we need to design solutions for complex engineering problems. We apply the concept of connection pooling.	L3
CO9	PO4	No need to Conduct investigations of complex problems. No	L3

		mapping	
CO9	PO5	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application.Defnitely we use modern software development tools. For integrating databases into java application.	L3
CO9	PO6	No impact on the context of The engineer and society. No mapping	L3
CO9	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO9	PO8	No Ethical principals involved. No mapping	L3
CO9	PO9	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application.we need to function as individual and as a team member .	L3
CO9	PO10	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application.we need to communicate effectively with the engineering community.	L3
CO9	PO11	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application. needs lifelong learning because JDBC/OBC classes and interfaces, drivers keep changing with major Revisons and minor versions.	L3
CO9	PO12	To apply JDBC/ODBC classes and interfaces for handling Databases in java/J2EE application. we need to Demonstrate the knowledge of engieering and management principles for project management.	L3
CO10	PO1	For understanding and applying Transaction processing mechanism for database application programming. We Need to apply Knowledge of mathematics. Since it is cruicial for application in the domians of finance,banking and ecommerce and for component based development.	L3
CO10	PO2	For understanding and applying Transaction processing mechanism for database application programming. We need to analyze complex engineering problems.Since it is cruicial for application in the domians of finance,banking and ecommerce and for component based development.	L3
CO10	PO3	For understanding and applying Transaction processing mechanism for database application programming.we need to design solutions for complex engineering problems.Since it is cruicial for application in the domians of finance,banking and ecommerce and for component based development.	L32
CO10	PO4	No need to Conduct investigations of complex problems. No mapping	L3
CO10	PO5	For understanding and applying Transaction processing mechanism for database application programming. Defnitely we use modern software development tools.	L3
CO10	PO6	No impact on the context of The engineer and society. No mapping	L3
CO10	PO7	No impact on the context of Environment and sustainability. No mapping	L3
CO10	PO8	No Ethical principals involved. No mapping	L3
CO10	PO9	For understanding and applying Transaction processing mechanism for database application programming. we need to function as individual and as a team member .	L3
CO10	PO10	For understanding and applying Transaction processing mechanism for database application programming. When developing java applications. we need to communicate effectively with the engineering community.	L3
CO10	PO11	For understanding and applying Transaction processing mechanism for database application programming.needs lifelong	L3

		learning because Transaction processing mechanism I keeps changing with major Revisons and minor versions.	
CO10	PO12	For understanding and applying Transaction processing mechanism for database application programming. we need to Demonstrate the knowledge of engieering and management principles for project management.	L3

Note: Write justification for each CO-PO mapping.

5. Curricular Gap and Content

SNo	Gap Topic	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1					
2					
3					

Note: Write Gap topics from A.4 and add others also.

6. Content Beyond Syllabus

SNo	Gap Topic	Actions Planned	Schedule Planned	Resources Person	PO Mapping
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Note: Anything not covered above is included here.

C. COURSE ASSESSMENT

1. Course Coverage

Module #	Title	Teaching Hours	No. of question in Exam						CO	Levels
			CIA-1	CIA-2	CIA-3	Asg	Extra Asg	SEE		
1	Enumeration,Autoboxing and Annotations	8	2	-	-	1	1	2	CO1, CO2	L1, L2
2	The collection framework	8	2	-	-	1	1	2	CO3, CO4	L2, L3
3	String Handling	8	-	2	-	1	1	2	CO5, CO6	L2, L3
4	Background, The Life Cycle of a Servlet	8	-	2	-	1	1	2	CO7, C08	L2, L3
5	The Concept of JDBC	8	-	-	4	1	1	2	CO9, CO10	L2, L3
-	**Total**	**40**	**4**	**4**	**4**	**5**	**5**	**10**	**-**	**-**

Note: Distinct assignment for each student. 1 Assignment per chapter per student. 1 seminar per test per student.

2. Continuous Internal Assessment (CIA)

Evaluation	Weightage in Marks	CO	Levels

CIA Exam – 1	15	CO1, CO2, CO3,CO4	L1, L2,L2,L3
CIA Exam – 2	15	CO5, CO6, CO7, C08	L2, L3,L2,L3
CIA Exam – 3	15	CO9, CO10	L2, L3
Assignment - 1	05	CO1, CO2, CO3, CO4	L1, L2,L2,L3
Assignment - 2	05	CO5, CO6, CO7, CO8	L2, L3,L2,L3
Assignment - 3	05	CO9, CO10	L2, L3
Seminar - 1	05		
Seminar - 2	05		
Seminar - 3	05		
Other Activities – define – Slip test		CO1 to Co9	L1,L2, L3
Final CIA Marks	**40**	**-**	**-**

Note : Blooms Level in last column shall match with A.2 above.

D1. TEACHING PLAN - 1

Module - 1

Title:	Enumeration,Autoboxing and Annotations	Appr Time:	8 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Understand Enumeration and Autoboxing in Developing Efficient Java Programs.	CO1	L2
2	Understand Annotations for developing Efficient Java Programs	CO2	L2
b	***Course Schedule***	-	-
Class No	**Module Content Covered**	**CO**	**Level**
1	Enumerations, Autoboxing and Annotations(metadata): Enumerations, Enumeration fundamentals,	CO1	L2
2	the values() and valueOf() Methods, java enumerations are class types, enumerations Inherits Enum,	CO1	L2
3	example, type wrappers,	CO1	L2
4	Autoboxing, Autoboxing and Methods, Autoboxing/Unboxing occurs in Expressions,	CO1	L2
5	Autoboxing/Unboxing, Boolean and character values, Autoboxing/Unboxing helps prevent errors, A word of Warning	CO1	L2
6	Annotations, Annotation basics, specifying retention policy, Obtaining Annotations at run time by use of reflection,	CO2	L2
7	Annotated element Interface, Using Default values,	CO2	L2
8	Marker Annotations, Single Member annotations, Built-In annotations.	CO2	L2
c	**Application Areas**	**CO**	**Level**
1	• We can use enum types when we need to represent a fixed set of constants . • We can use enums when a variable can take one out of a small set of possible values • Enum considered more type-safe than constants: One of the common use of enums is to prevent the possibility of an invalid parameter.	CO1	L2
2	• annotation is used to describe the element and clarify its meaning. • advanced application for annotations involves reflection and	CO2	L2

	annotation processing at run-time.		
d	**Review Questions**	-	-
1	Explain Enumerations and why it is used.	CO1	L2
2	Discuss Enumerations in Java and C++.	CO1	L2
3	Illustrate Enumerations with an example.	CO1	L2
4	Discuss Values and Values of Methods with syntax and examples.	CO1	L2
5	What are Type wrappers	CO1	L2
6	Explain Autoboxing and Unboxing .	CO1	L2
7	Discuss Autoboxing method parameters.	CO1	L2
8	What are annotations, Explain how annotations are created using interface.	CO2	L2
9	Explain how annotations are obtained at runtime using reflections	CO2	L2
10	Explain marker annotations and Built in Annotations	CO2	L2
e	**Experiences**	-	-
1			
2			
3			

Module – 2

Title:	The Collection framework	Appr Time:	08 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	• Java Collections Framework provides lots of different useful data types, • Java Collections Framework provides abstractions	CO3	L3
2	• legacy classes are re-engineered to support generics in JDK5 Vector class is one among them. • All legacy classes are synchronized	CO4	L2
b	***Course Schedule***	-	-
Class No	**Module Content Covered**	**CO**	**Level**
9	The collections and Framework: Collections Overview,	CO3	L3
10	Recent Changes to Collections, The Collection Interfaces, The Collection Classes,	CO3	L3
11	Accessing a collection Via an Iterator, Storing User Defined Classes in Collections,	CO3	L3
12	The Random Access Interface, Working With Maps, Comparators,	CO3	L3
13	The Collection Algorithms,	CO4	L2
14	Why Generic Collections?, The legacy Classes and Interfaces,	CO4	L2
15	Parting Thoughts on Collections.	CO4	L2
16	Worked Examples on Collections. And Sample programs	CO3	L3
c	**Application Areas**	**CO**	**Level**
1	• Java Collections Framework provides lots of different useful data types, • Java Collections Framework provides abstractions	CO3	L3
2	• legacy classes are re-engineered to support generics in JDK5 Vector class is one among them. • All legacy classes are synchronized	CO4	L2
d	**Review Questions**	-	-
11	What are Collection framework.	CO3	L3

12	How generics change the Collection framework	CO3	L3
13	Describe all the collection interfaces.	CO3	L3
14	Describe the methods defined in list interface	CO3	L3
15	Describe the methods defined in Queue interface	CO3	L3
16	Describe the collection classes.	CO3	L3
17	Explain how Iterator used in accessing the collection classes	CO3	L3
18	Describe Legacy classes and interfaces.	CO4	L2
19	Explain How legacy classes are improved in collection framework	CO4	L2
20	Describe Vector, stack, and Hashtable legacy classes	CO4	L2
e	**Experiences**	-	-
1			
2			
3			

E1. CIA EXAM – 1

a. Model Question Paper - 1

Crs Code:	15CS553	Sem: V	I	Marks:	30	Time:	75 minutes
Course:	Advanced Java and J2EE						

-	-	**Note: Answer any 1 questions, from each part.**	**Marks**	**CO**	**Level**
		PART A			
1	a	Explain Enumerations and why it is used. Discuss Enumerations in Java and C++.	5	CO1	L2
	b	What are annotations, Explain how annotations are created using interface.	5	CO2	L2
	c	What are Type wrappers	5	CO1	L2
2	a	Discuss Values and Values of Methods with syntax and examples.	5	CO1	L2
	b	Explain how annotations are obtained at runtime using reflections	5	CO2	L2
	c	Discuss Autoboxing method parameters.	5	CO1	L2
		PART B			
3	a	What are Collection framework. How generics change the Collection framework	5	CO3	L3
	b	Describe Vector, stack, and Hashtable legacy classes	5	CO4	L2
	c	Describe the methods defined in list interface	5	CO3	L3
4	a	Explain how Iterator used in accessing the collection classes	5	CO3	L3
	b	Describe Legacy classes and interfaces.	5	CO4	L2
	c	Describe the methods defined in Queue interface	5	CO3	L3

CIA Test Paper - 1

CIA - # Dept	1 CSE	Sem / Div:	V Sem 'A' &'B'	Course:	**Advanced Java and J2EE**	Elective:	Y
Date:	19-09-18	Time:	9:30 – 10:45	C Code:	**15CS553**	Max Marks:	30

Note: Answer all full questions. All questions carry 15 marks.

QNo		**Questions**	**CO**	**Level**	**Marks**	**module**
1	a	What are Enumerations? Explain values() and valuesOf() methods with an example program	1	L2	8	1
	b	What is Auto Boxing and Un Boxing ? Write a Java Program and demonstrate Auto Boxing and UnBoxing.	1	L2	7	1
		OR				
2	a	Explain the following methods of java.lang.enum with an example program. (I). ordinal() (ii). CompareTo() (iii). equals()	1	L2	8	1
	b	Explain TypeWrappers with Expression boolean and character values.	2	L2	7	1
3	a	What is collection framework? Explain the methods defined by collection interface	3	L2	8	2
	b	Explain the Arraylist class how do you obtain an array out of Arraylist.	3	L2	7	2
		OR				
4	a	Explain the Constructors of TreeSet Class and write a java program to create TreeSet object and access the elements via Iterator.	3	L2	8	2
	b	Explain the methods offered by listIterator. Show how Iterator is used to access elements from a collection with an example program	4	L2	7	2

b. Assignment -1

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions							
Crs Code:	15CS553	Sem: V	I	Marks:	5	Time:	90 – 120 minutes
Course:	Advanced Java and J2EE						

Note: Each student to answer 2-3 assignments. Each assignment carries equal mark.

SNo	**USN**	**Assignment Description**	**Marks**	**CO**	**Level**
1		Explain Enumerations how it is created , discuss with an example.	5	CO1	L2
2		What is the importance of Values() and Valuesof() Methods in enumerations. What will be returned by these two methods.	5	CO1	L2
3		Discuss type wrappers and Autoboxing and explain the Autoboxing method parameters.	5	CO1	L2
4		Explain why annotations are called as metadata and write how annotations are obtained at runtime using reflections	5	CO2	L2
5		Briefly explain marker annotations and Built in Annotations with suitable Examples.	5	CO2	L2
6		Summarize the interfaces available in collection framework. And describe briefly about them	5	CO3	L3
7		Explain how list interface is extended from collection interface. Describe the methods defined in list interface briefly.	5	CO3	L3
8		Examine the concrete collection classes and illustrate their use briefly.	5	CO3	L3

9		Explain how all Collection classes can be accessed using via Iterator method which is avialable in collection classes.	5	CO3	L3
10		Describe all the classes available in legacy classes and briefly explain Vector, stack, and Hashtable legacy classes.	5	CO4	L2

D2. TEACHING PLAN - 2

Module – 3

Title:	String Handling	Appr Time:	8 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Apply String classes for String Processing Applications.	CO5	L3
2	Apply String Buffer classes for String processing applications.	CO6	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	The String Constructors, String Length, Special String Operations, String Literals, String Concatenation, String Concatenation with Other Data Types, String Conversion.	CO5	L1,L2
2	toString( ) Character Extraction, charAt( ), getChars( ), getBytes( ) toCharArray(), String Comparison, equals( ) and equalsIgnoreCase( ), regionMatches( ) startsWith( ) and endsWith( ),	CO5	L1,L2
3	equals( ) Versus == , compareTo( ) Searching Strings, Modifying a String, substring( ), concat( ), replace( ), trim( )	CO5	L1,L2
4	Data Conversion Using valueOf( ), Changing the Case of Characters Within a String, Additional String Methods, StringBuffer , StringBuffer Constructors,	CO5	L1,L2
5	length( ) and capacity( ), ensureCapacity( ), setLength( ), charAt( ) and setCharAt( ),	CO6	L1,L2
6	getChars( ),append( ), insert( ), reverse( ), delete( ) and deleteCharAt( ), replace( ), substring( ),	CO6	L1,L2
7	Additional StringBuffer Methods, StringBuilder	CO6	L1,L2
8	Worked Examples on Strings. And Sample programs	CO5,CO6	L3
c	**Application Areas**	**CO**	**Level**
1	• String class is used to create and manipulate strings. • String objects are immutable so it is used in a constant and cannot be changed once created.	CO5	L3
2	• StringBuffer provides much of the functionality of strings. • StringBuffer is used for growable and writable character sequences.	CO6	L3
d	**Review Questions**	-	-
1	Explain String, String Builder and StringBuffer classes classifying as mutable and immutable string.	CO5	L3
2	Describe constructors and all the String class methods Briefly with and example.	CO5	L3
3	Explain How string is modified using String class methods.	CO5	L3
4	Describe Conversion and Searching methods of String class.	CO5	L3
5	Explain String Buffer class as peer class of String and constructors.	CO6	L3
6	Describe the methods briefly available in String Buffer Classes.	CO6	L3
e	**Experiences**	-	-
1			
2			
3			

Module – 4

Title:	Background : Life Cycle of a Servlet	Appr Time:	8Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Apply Servlet API classes for developing Web application	CO7	L3
2	Apply JSP API classes and Interfaces for Web application	CO8	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	Background; The Life Cycle of a Servlet	CO7	L1,L2
2	Using Tomcat for Servlet Development; A simple Servlet;	CO7	L1,L2
3	The Servlet API; The Javax.servlet Package; Reading Servlet Parameter; The Javax.servlet.http package;	CO7	L1,L2
4	Handling HTTP Requests and Responses;	CO7	L1,L2
5	Using Cookies; Session Tracking.	CO7	L1,L2
6	Java Server Pages (JSP): JSP, JSP Tags,	CO8	L1,L2
7	Tomcat, Request String, User Sessions, Cookies, SessionObjects	CO8	L1,L2
8	Worked Examples on Servlets and JSPs. And Sample programs	CO7,CO8	L3
c	**Application Areas**	**CO**	**Level**
1	• Servlets are commonly used to extend the applications hosted by web servers. • Servlets are most popularly used for generating dynamic content on the Web and have native support for HTTP.	CO7	L3
2	• JavaServer Pages allows us to integrate with our existing Java Enterprise solutions, • JavaServerPages can be used in the presentation layer,	CO8	L3
d	**Review Questions**	-	-
1	Explain J2EE, CGI and concept of Servlet	CO7	L3
2	Describe Servlet Anatomy and Deployment Descriptor	CO7	L3
3	Illustrate the role of Http request object and response object and cookies in session management	CO7	L3
4	Explain JSP as server side program	CO8	L3
5	Describe the Five types of JSP tags and Briefly explain.	CO8	L3
6	Illustrate how user sessions are handled in JSP.	CO8	L3
e	**Experiences**	-	-
1			
2			
3			

E2. CIA EXAM – 2

a. Model Question Paper - 2

Crs Code:	15CS553	Sem:V	I	Marks:	30	Time:	75 minutes		
Course:	Advanced JAVA and J2EE								
-	**-**	**Note: Answer any 1 questions, from each part.**					**Marks**	**CO**	**Level**
		PART A							
1	a	Describe Conversion and Searching methods of String class.					5	CO5	L3

	b	Describe the methods briefly available in String Buffer Classes.	5	CO6	L3
	c	Describe constructors and all the String class methods Briefly with and example.	5	CO5	L3
2	a	Describe Servlet Anatomy and Deployment Descriptor	5	CO7	L3
	b	Describe the Five types of JSP tags and Briefly explain.	5	CO8	L3
	c	Illustrate the role of Http request object and response object and cookies in session management	5	CO7	L3
		PART B			
3	a	Explain How string is modified using String class methods.	5	CO5	L3
	b	Explain String Buffer class as peer class of String and constructors.	5	CO6	L3
	c	Explain String, String Builder and StringBuffer classes classifying as mutable and immutable string.	5	CO5	L3
4	a	Explain JSP as server side program	5	CO8	L3
	b	Illustrate how user sessions are handled in JSP.	5	CO8	L3
	c	Explain J2EE, CGI and concept of Servlet	5	CO7	L3

CIA Test Paper - 2

CIA - # Dept	2 CSE	Sem / Div:	V 'A'	Course:	**Advanced Java and J2EE**	Elective:	Y
Date:	27-10-18	Time:	9:30 – 10:45	C Code:	**15CS553**	Max Marks:	30

Note: Answer all full questions. All questions carry 15 marks.

QNo		**Questions**	**CO**	**Level**	**Marks**	**module**
1	a	What is Strings in Java? Write a Java program that demonstrates any six constructors of strings class.	CO5	L2	8	3
	b	Differentiate between equals() and == with respect to string comparisons. Explain thd following character extraction methods. i) charAt() ii) toCharArray()	CO5	L2	7	3
		OR				
2	a	Explain how to modify a string using following methods. i) SubString ii) replace(). Iii) conCat() iii) trim()	CO5	L2	8	3
	b	Explain any two constructors and the following methods of String Buffer Class. I) append() ii) reverse iii) insert() iv) replace()	CO6	L2	7	3
3	a	Explain the following string comparison methods with examples. I) equals(), ii) regionMatches() iii). StartsWith & endsWith iv) compareTo()	CO5	L2	8	3
	b	What is the difference between String class, StringBuffer class, String Builder class.	CO6	L2	7	3
		OR				
4	a	Explain the JDBC driver types.	CO7	L2	8	4
	b	Explain the concept of JDBC	CO7	L2	7	4

b. Assignment – 2

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions							
Crs Code:	CS501PC	Sem:	I	Marks:	5 / 10	Time:	90 – 120 minutes
Course:	Design and Analysis of Algorithms						

Note: Each student to answer 2-3 assignments. Each assignment carries equal mark.

SNo	**USN**	**Assignment Description**	**Marks**	**CO**	**Level**
1		Describe String constructors and all the Special String Operations.	5	CO5	L3
2		Explain How string is modified using Character Extraction and String comparisons .	5	CO5	L3
3		Describe String Conversion and String Searching methods of String class.	5	CO5	L3
4		Explain String Buffer Constructors and String Buffer as peer class of String	5	CO6	L3
5		Describe the Additional methods available in String Buffer Classes.	5	CO6	L3
6		Differentiate between Java Servlets and Common Gateway interface programming	5	CO7	L3
7		Illustrate the role of Http request object and response object in reading data from client.Explain Http request header and Http response header.	5	CO7	L3
8		Explain Java Server Pages as server side program and Describe the Java Server Pages tags briefly.	5	CO8	L3
9		Describe how methods , Control Statement and Loops are handled in Java Server Pages.	5	CO8	L3
10		Illustrate commonly used methods to track user sessions in Java Server Pages.	5	CO8	L3

D3. TEACHING PLAN - 3

Module – 5

Title:	The Concept of JDBC	Appr Time:	8 Hrs
a	***Course Outcomes***	-	**Blooms**
-	The student should be able to:	-	**Level**
1	Apply JDBC/ODBC Classes and Interfaces for handling Databases in Java/J2ee Applications.	CO9	L3
2	Understand Transaction processing mechanism for Data base application programming.	CO10	L3
b	***Course Schedule***		
Class No	**Module Content Covered**	**CO**	**Level**
1	The Concept of JDBC;	CO9	L3
2	JDBC Driver Types; JDBC Packages;	CO9	L3
3	A Brief Overview of the JDBC process; Database Connection; Associating the JDBC/ODBC Bridge with the Database,	CO9	L3
4	Statement Objects,	CO9	L3
5	ResultSet,	CO9	L3
6	Transaction Processing,	CO10	L2
7	Metadata, Data types, Exceptions.	CO10	L2
8	Worked Examples on JDBC. And Sample programs	CO9,C10	L3
c	**Application Areas**	**CO**	**Level**
1	• Java JDBC is used to connect and execute query with the database. • JDBC drivers are written in Java language it is more secured.	CO9	L3
2	• Transaction processing is crucial requirements for large enterprise applications in the domains of finance, banking and electronic commerce. • Transcation processing is used for Component Based Development.	CO10	L2
d	**Review Questions**	-	-
1	Explain Database Schema, Normalization,Functional Dependency	CO9	L3
2	Describe the Concept of JDBC	CO9	L3
3	Write Different JDBC Driver Types.	CO9	L3
4	Illustrate the Brief Overview of JDBC Process	CO9	L3
5	Explain how Database Connection established in J2EE	CO9	L3
6	Write the concept of Connection pool.	CO9	L3
7	What is the use of ResultSet Object.	CO9	L3
8	Explain how Data read from Result Set object and Scrollable Resultset.	CO9	L3
9	Define Statement Object, Prepared statement and Callable Statement	C10	L2
10	Illustrate the Concept of transaction processing.	C10	L2
11	What is MetaData and Result Set Metadata.	C10	L2
12	Explain the Role of Commit and RoleBack in Transaction processing	C10	L2
e	**Experiences**	-	-
1			
2			
3			

E3. CIA EXAM – 3

a. Model Question Paper - 3

Crs Code:	15CS553	Sem:	V	Marks:	30	Time:	75 minutes		
Course:	Advanced JAVA and J2EE								
-	**-**	**Note: Answer any 1 questions, from each part.**					**Marks**	**CO**	**Level**
		PART A							
1	a	Explain Database Schema, Normalization,Functional Dependency					5	CO9	L3
	b	Describe the Concept of JDBC					5	CO9	L3
	c	Define Statement Object, Prepared statement and Callable Statement					5	C10	L2
2	a	Write Different JDBC Driver Types.					5	CO9	L3
	b	Illustrate the Brief Overview of JDBC Process					5	CO9	L3
	c	Illustrate the Concept of transaction processing.					5	C10	L2
		PART B							
3	a	Explain how Database Connection established in J2EE					5	CO9	L3
	b	Write the concept of Connection pool.					5	CO9	L3
	c	What is MetaData and Result Set Metadata.					5	C10	L2
4	a	What is the use of ResultSet Object.					5	CO9	L3
	b	Explain how Data read from Result Set object and Scrollable Resultset.					5	CO9	L3
	c	Explain the Role of Commit and RoleBack in Transaction processing					5	C10	L2

CIA Test Paper - 3

CIA - # Dept	3 CSE	Sem / Div:	V 'A'	Course:	**Advanced Java and J2EE**	Elective:	Y
Date:	24-11-18	Time:	9:30 – 10:45	C Code:	**15CS553**	Max Marks:	30

Note: Answer all full questions. All questions carry 15 marks.

QNo		Questions	CO	Level	Marks	module
1	a	What is Servelet? Explain the life Cycle of Servlet.	CO7	L2	8	4
	b	Write a short notes on HTTP Request and Http Response object.	CO7	L2	7	4
		OR				
2	a	Define JSP ? Explain different JSP Tags by taking suitable example.	CO8	L3	8	4
	b	What is Session tracking ? How it is done in JSP	CO8	L2	7	4
3	a	Explain statement object, Callable object, prepared statement object.	CO9	L2	8	5
	b	Explain scrollable result set and updatable resultset.	CO9	L2	7	5
		OR				
4	a	What is Transaction processing ? Write a java program to execute database transcactions.	CO10	L3	8	5
	b	Explain the steps in JDBC process	CO9	L2	7	5

b. Assignment – 3

Note: A distinct assignment to be assigned to each student.

Model Assignment Questions							
Crs Code:	CS501PC	Sem:	I	Marks:	5 / 10	Time:	90 – 120 minutes
Course:	Design and Analysis of Algorithms						

Note: Each student to answer 2-3 assignments. Each assignment carries equal mark.

SNo	USN	Assignment Description	Marks	CO	Level
1		Explain the concept of J2EE Database Schema, Normalization principles,	5	CO9	L3
2		Describe the Concept of Primary key, Secondary key and Foriegn key.	5	CO9	L3
3		Discuss the concept of JDBC and Write Different JDBC Driver Specifications.	5	CO9	L3
4		Illustrate the Process for interacting the Databases using JDBC Process routines.	5	CO9	L3
5		Apply the connection component and create connection object . Explain the steps in establishing the connection to databases in J2EE	5	CO9	L3
6		Explain Briefly the concept of Connection pool.	5	CO9	L3
7		What is the use of ResultSet Object. And Explain the available methods	5	CO9	L3
8		Explain how Data is read from Result Set object and Scrollable Resultset Object.	5	CO9	L3
9		Discuss the concept of Statement Object and when it is used, also explain Prepared statement and Callable Statement with its associated methods.	5	C10	L2
10		Illustrate the Concept of transaction processing in J2EE Enterprise application.	5	C10	L2
11		What is MetaData and Result Set Metadata Explain Briefly.	5	C10	L2
12		Explain the Role of Commit and RoleBack in Transaction processing	5	C10	L2

F. EXAM PREPARATION

1. University Model Question Paper

Course:	Advanced JAVA and J2EE					Month / Year	May /2018
Crs Code:	15cs553	Sem:	V	Marks:	100	Time:	180 minutes

CS
Prepared by Checked by Approved

-	**Note**	Answer all FIVE full questions. All questions carry equal marks.	**Marks**	**CO**	**Level**
1	a	What is the importance of Values() and Valuesof() Methods in enumerations. What will be returned by these two methods.	6	CO1	L2
	b	Discuss type wrappers and Autoboxing and explain the Autoboxing method parameters.	4	CO1	L2
	c	Explain why annotations are called as metadata and write how annotations are obtained at runtime using reflections	6	CO2	L2
		OR			
-	a	Explain Enumerations . Why it is used with an example	6	CO1	L2
	b	Discuss Autoboxing method parameters.	4	CO1	L2
	c	Explain Market Annotations and Built in Annotations	6	C02	L2
2	a	Describe the collection classes.	6	CO3	L3
	b	Explain how Iterator used in accessing the collection classes	6	CO3	L3
	c	Describe Legacy classes and interfaces.	4	CO4	L2
		OR			
-	a	Explain all the collection interfaces with examples.	6	CO3	L3
	b	Describe the methods defined in list interface	4	CO3	L3
	c	Explain with an example Vector, stack, and Hashtable legacy classes	6	CO4	L2
3	a	Explain How string is modified using String class methods.	6	CO5	L3
	b	Describe Conversion and Searching methods of String class.	6	CO5	L3
	c	Explain String Buffer class as peer class of String and constructors.	4	CO6	L3
		OR			
-	a	Explain String, String Builder and StringBuffer classes classifying as mutable and immutable string.	6	CO5	L3
	b	Describe constructors and all the String class methods Briefly with and example.	6	CO5	L3
	c	Describe the methods briefly available in String Buffer Classes.	4	CO6	L3
4	a	What is a servlet ? Explain the phases of Servlet Life Cycle.	6	C7	L2
	b	Write a servlet Program to illustrate how to use session state.	6	C7	L3
	c	Explain the advantages of servlet over CGI	4	C7	L2
		OR			
-	a	Explain different JSP Tags. Write a program to show usage of these tags.	6	C7	L3
	b	Illustrate the role of Http request object and response object in reading data from client.Explain Http request header and Http response header.	6	C7	L2
	c	Illustrate commonly used methods to track user sessions in Java Server Pages.	4	C8	L3
5	a	Describe the various process of JDBC Process with Code Snippet.	7	C9	L3
	b	Explain Callable Statement with an Example	5	C9	L3
	c	Explain different types of drivers used in JDBC	4	C9	L2
		OR		C9	
	a	What is the use of ResultSet Object. And Explain the available methods	6	C9	L2
	b	Explain the concept of connection pooling	4	C9	L2
	c	Discuss the concept of Statement Object and when it is used, also explain Prepared statement and Callable Statement with its associated methods.	6	C10	L3

2. SEE Important Questions

Course:	Advanced Java and J2EE					Month / Year	Aug /2018
Crs Code:	15cs553	Sem:	v	Marks:	80	Time:	180 minutes
	Note	Answer all FIVE full questions. All questions carry equal marks.				-	-
Mo	Qno.	Important Question				**Marks**	**CO**	**Year**

CS
Prepared by Checked by Approved

dule					
1	1	What are Enumerations ? Explain values() and values of () methods with an example	4	CO1	2018 Jan
	2	What is AutoBoxing ? Write a Java to demonstrate autoboxing and un boxing	4	CO1	2018 Jan
	3	What are annotations? Explain the following Builtin annotations with program as an example @override @inherited @retention	8	CO2	2018 Jan
	4	Explain the following methods of Java.lang.Enum with an example program i) ordinal() ii) compareTo() iii equals()	8	CO1	2018 Jan
	5	Explain how to obtain annotations at Runtime by use of reflections	8	CO2	2018 Jan
2	1	What is collection Framework? Explain the methods defined by collection interface.	8	CO3	2018 Jan
	2	Explain the methods defined by List Iterator interface.	8	CO3	2018 Jan
	3	Explain the constructors of TreeSet class and write a java program to create TreeSet collection and access in via an Iterator.	8	CO3	2018 Jan
	4	Explain any four legacy classes of Java's Collection framework.	8	CO4	2018 Jan
3	1	What is string in Java? Write a java program that demonstrates any four constructors of string class.	8	CO5	2018 Jan
	2	Differentiate between equals() and == with respect to string comparison	4	CO5	2018 Jan
	3	Explain the following character Extraction methods. i) CharAt ii) toCharArray()	4	CO5	2018 Jan
	4	Explain how to modify a string by using following methods I) substring() ii) concat() iii)replace() iv) trim()	8	CO5	2018 Jan
	5	Explain the following methods of String Buffer Class I) append() ii)insert iii) reverse() iv) replace()	4	CO6	2018 Jan
4	1	Explain the life cycle of Servlets	8	CO7	2018 Jan
	2	List and explain core classes and interfaces in javax.servlet package.	4	CO7	2018 Jan
	3	Write Short notes on HTTP request and response	4	CO7	2018 Jan
	4	What is a Cookie? List out methods defined by cookie? Write a java program to add a cookie.	8	CO7	2018 Jan
	5	Define JSP Explain different types of JSP tags by taking a suitable example	8	CO8	2018 Jan
5	1	Explain the four types of JDBC drivers.	6	CO9	2018 Jan
	2	Describe the various steps of JDBC with code snippets.	10	CO9	2018 Jan
	3	Write a Java program to execute a database transaction	8	CO10	2018 Jan
	4	Explain I) Callable statement object ii) prepared statement object.	8	CO9	2018 Jan